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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/796,717	03/08/2004	Rohan Thakur	12671-043001	1802

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EXAMINER

QUASH, ANTHONY G

ART UNIT	PAPER NUMBER
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2881

DATE MAILED: 12/14/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/796,717

Applicant(s)

ROHAN A. THAKUR

Examiner

Anthony Quash

Art Unit

2881

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-25 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-25 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 08 March 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 7/19/04.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: ____.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 17-18, are rejected under 35 U.S.C. 102(b) as being anticipated by Chutjian [5,596,193]. With respect to independent claim 17 and dependent claim 18, Chutjian [5,596,193] discloses an ion transfer component in a mass spectrometer comprising an ion guide (130) into which ions can pass, wherein at least a portion of the ion guide (130) comprises titanium metal (abstract, figs. 2-6, col. 3 lines 44-50); and the ion guide comprises a plurality of rods (figs. 2-6, col. 3 lines 44-50).

Claim 17 is rejected under 35 U.S.C. 102(b) as being anticipated by Chutjian [6,049,052]. With respect to independent claim 17, Chutjian [6,049,052] discloses an ion transfer component in a mass spectrometer comprising an ion guide (16) into which ions can pass, wherein at least a portion of the ion guide (16) comprises titanium metal (abstract, figs. 1-5, col. 9 lines 50-60).

Claims 1-7, 13, 20 are rejected under 35 U.S.C. 102(e) as being anticipated by Mordehai [6,703,610]. With respect to independent claim 1 and dependent claims 2-7, and 13, Mordehai [6,703,610] discloses an ion transfer component in a mass

Art Unit: 2881

spectrometer comprising a body (11), (figs. 1, 3a-4b) having an through which ions pass, wherein at least a portion of the body comprises titanium (col. 5 lines 5-20); the entire body comprising titanium (col. 5 lines 5-20); at least a portion of the body being coated with titanium metal (col. 2 lines 30-45, col. 5 lines 5-20); at least a portion of the body (11) including one or more surfaces of the ion transfer component (col. 2 lines 30-45, col. 5 lines 5-20); at least a portion of the body (11) at least partially surrounds and defines the orifice (fig. 1); the titanium metal comprising an alloy of titanium (col. 2 lines 30-45, col. 5 lines 5-20, col. 6 lines 40-50); the alloy of titanium being an alloy of titanium and one or more of the metals in the group consisting of aluminum, vanadium, molybdenum, manganese, iron, platinum, tin, copper, niobium, zirconium, and chromium; the ion transfer component comprising a skimmer (col. 5 lines 5-20, col. 9 lines 20-30); and a source of ions (2) for generating ions and an ion transfer component.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 8-9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Mordehai [6,703,610] in view of Kobelco, "Titanium Characteristics," <http://www.kobelco.co.jp/titan/e/feature.htm>. With respect to dependent claims 8-9, Mordehai [6,703,610] fails to disclose the titanium metal comprising commercially pure

titanium. Kobelco, "Titanium Characteristics," teaches the use of commercially pure titanium, and titanium metal comprising grade I, II, III, or IV titanium (page 3).

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to use commercially pure titanium due to its tensile strength and its excellence in corrosion resistance and formability as taught in Kobelco, "Titanium Characteristics."

Claims 10-12,14-16,19,21-25 are rejected under 35 U.S.C. 103(a) as being unpatentable over Mordehai [6,703,610] in view of Chutjian [6,049,052]. With respect to dependent claims 10-12,14-16, Mordehai [6,703,610] fails to explicitly disclose the ion transfer component comprising a lens. It does however teach the ion transfer component comprising ion optics (see fig. 1, and col. 4 lines 10-25). Chutjian [6,049,052] teaches the ion transfer component comprising the a lens (the rods/poles), (figs. 1-5, col. 9 lines 45-60); the lens being configured such that an electrostatic potential can be applied (col. 10 lines 45-60); the lens being configured such that an RF potential can be applied (col. 10 lines 45-60); the ion transfer component being an RF only lens (col. 10 lines 45-60); the RF only lens comprising a plurality of rods (col. 10 lines 45-60); and a DC potential being applied to the plurality of rods (col. 10 lines 45-60). Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to have the ion transfer component comprise a lens in order to focus/guide the ions to the detector.

With respect to claim 19, it would have been obvious to on of ordinary skill in the art at the time the invention was made to have an enclosure, wherein at least part of

the enclosure comprises titanium in order to reduce the occurrence of damage to the apparatus due to corrosion.

With respect to dependent claims 21-25, it is the examiner's view that Mordehai [6,703,610] teaches the ions adiabatically expanding to form a supersonic free jet, and at least a portion of the ion transfer component being disposed in an area of the free jet expansion (Mordehai [6,703,610] figs. 1,3a-4b, and col. 4 lines 5-25); at least a portion of the ion transfer component being disposed in a zone of silence resulting from the free jet expansion area (Mordehai [6,703,610] figs. 1,3a-4b, and col. 4 lines 5-25); at least a portion of the ion transfer component be disposed outside of area of free expansion (Mordehai [6,703,610] figs. 1,3a-4b, and col. 4 lines 5-25); the source of ions comprising an orifice through which the ions emerge (fig. 1), and at least a portion of the ion transfer component is disposed such that the orifice is disposed opposing to the emerging ions (Mordehai [6,703,610] figs. 1,3a-4b, and col. 4 lines 5-25); and the ions generated by the source along an axis, and at least a portion of the ion transfer component being disposed at an angle from the axis (Mordehai [6,703,610] figs. 1,3a-4b, and col. 4 lines 5-25).

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. U.S. Patent Nos. 4,814,612 to Vestal et al, and 6,580,067 to Yamada et al are considered pertinent to that applicant's disclosure. Vestal [4,814,612] is considered pertinent due to its discussion about ions adiabatically expanding to form a supersonic jet and skimmers being used to diffuse the jet. Yamada [6,580,067] is

Art Unit: 2881

considered pertinent due to its discussion on a sample analyzing monitor and combustion control system using the same.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Anthony Quash whose telephone number is (571)-272-2480. The examiner can normally be reached on Monday thru Friday 9 a.m. to 5 p.m..

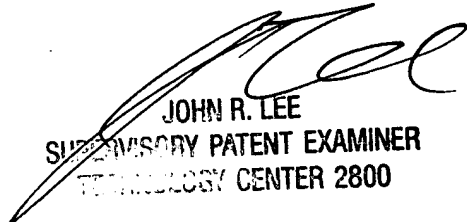
If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, John R. Lee can be reached on (571)-272-2477. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

A. Quash



12/11/04



JOHN R. LEE
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